

CLAIMS

1. Implementation process of a conversational rational agent as kernel of a dialogue system and/or as element (agent) of a multiagent system including the following stages

- definition of a conceptual architecture of a conversational rational agent,
- formal specification of the different components of this architecture and their combination permitting a formal model to be obtained,

characterized in that it includes the definition of a software architecture implementing the formal architecture, this definition consists in,

- a definition of mechanisms that implement the formal specification including:
 - data including predefined axiom schemes and axiom schemes dependent on the desired application,
 - a knowledge base dependent on the desired application including a semantic network and inter-concepts distances,
 - an inference engine to implement formal specification mechanisms by means of data and the knowledge base in order to be able to receive a logical statement, understand it, and to be able to provide a logical statement in response,
 - the rational agent is thus intended to converse with another agent or with a system user through any communications medium.

2. Implementation process according to the claim 1, characterized in that the definition of the software

architecture implementing the formal architecture is realized by a rational unit (100) containing a rationality axioms implementation layer, a communication axioms implementation layer, a cooperation axioms implementation layer, corresponding respectively to axioms predefined by the formal model.

3. Implementation process according to claim 1 characterized in that the definition of the software architecture implementing the formal architecture includes besides:

- a generation module (160) to transcribe a sequence produced by the rational unit (100) in a user's natural language statement and a comprehension module (150) to interpret the user's statement into a logical statement comprehensible by the rational unit; these modules implement therefore a natural language communications layer.

4. Implementation process according to claim 1, characterized in that the implementation of mechanisms for implementing the formal model is realized by the rational unit (100), the generation module (160) and comprehension module (150).

5. Conversational rational agent placed as a kernel of a dialogue system and/or as element (agent) of a multiagent system, including:

- a definition of a conceptual architecture,
- a formal specification of different components of this architecture and their combination allowing a

